

# **Hepatitis A Outbreak Southeast Missouri 2017-2018**

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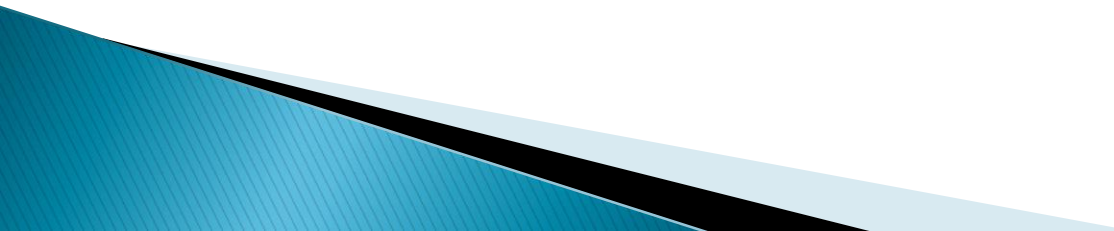
Bureau of Communicable Disease Control and Prevention

Section for Disease Prevention

Missouri Department of Health and Senior Services

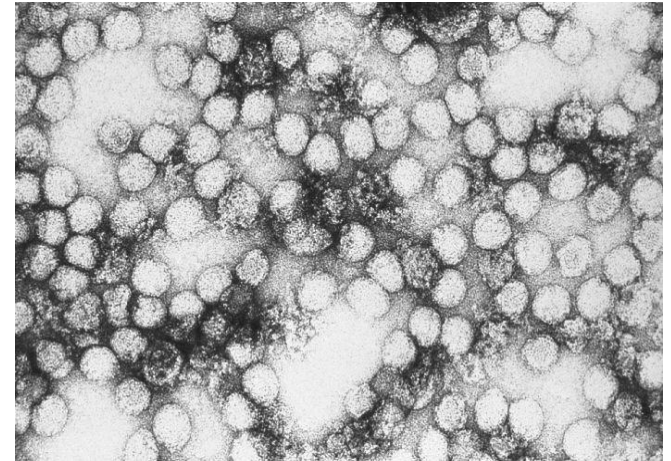


# Hepatitis

- ▶ Hepatitis – inflammation of the liver
    - Heavy alcohol use
    - Toxins, medications, certain medical conditions
    - Viruses – Hepatitis A, B, and C
  - ▶ Although similar symptoms, different modes of transmission and can affect the liver differently
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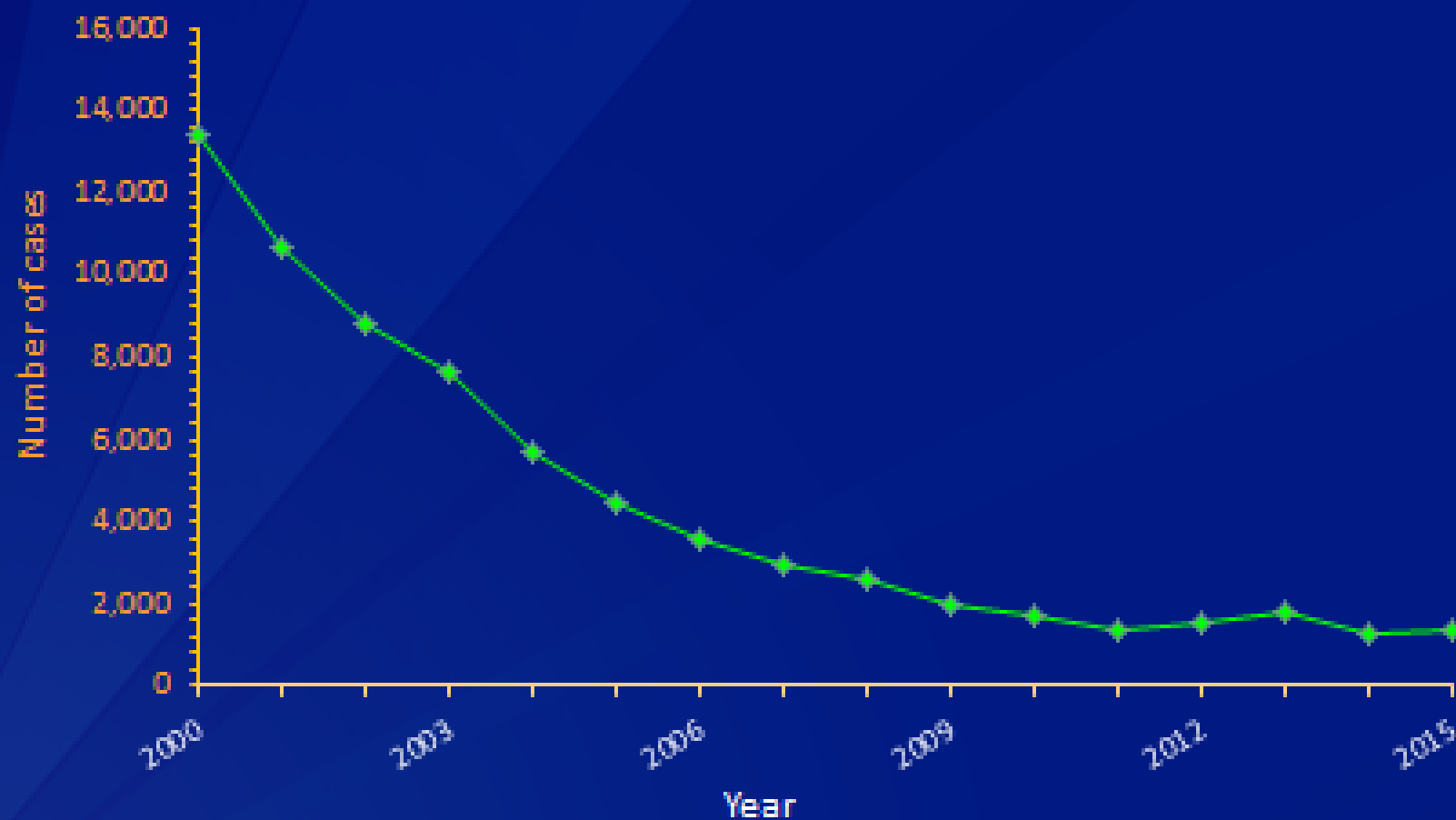
# Hepatitis A - Disease

- ▶ A discrete onset of symptoms
  - Dark “tea colored” urine
  - Clay-colored stools
  - Jaundice (yellowing of skin or eyes)
- ▶ Illness typically lasts less than two months
- ▶ Hospitalizations are common
- ▶ Rarely causes liver failure and death
  - Over 50 years of age
  - Other liver diseases



Images courtesy the CDC Image Library

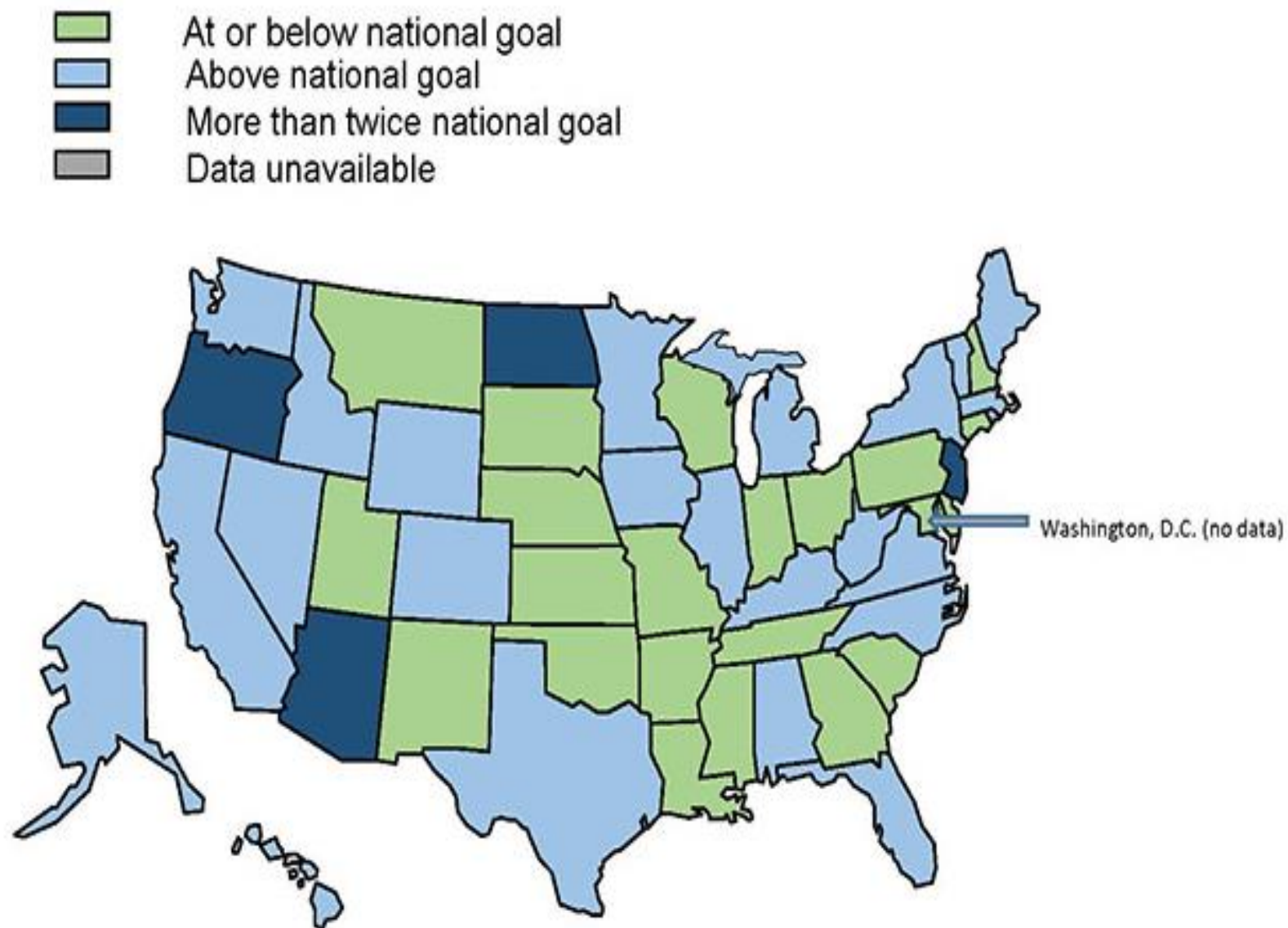
**Figure 2.1. Reported number of hepatitis A cases—  
United States, 2000–2015**



Source: CDC, National Notifiable Diseases Surveillance System (NNDSS)



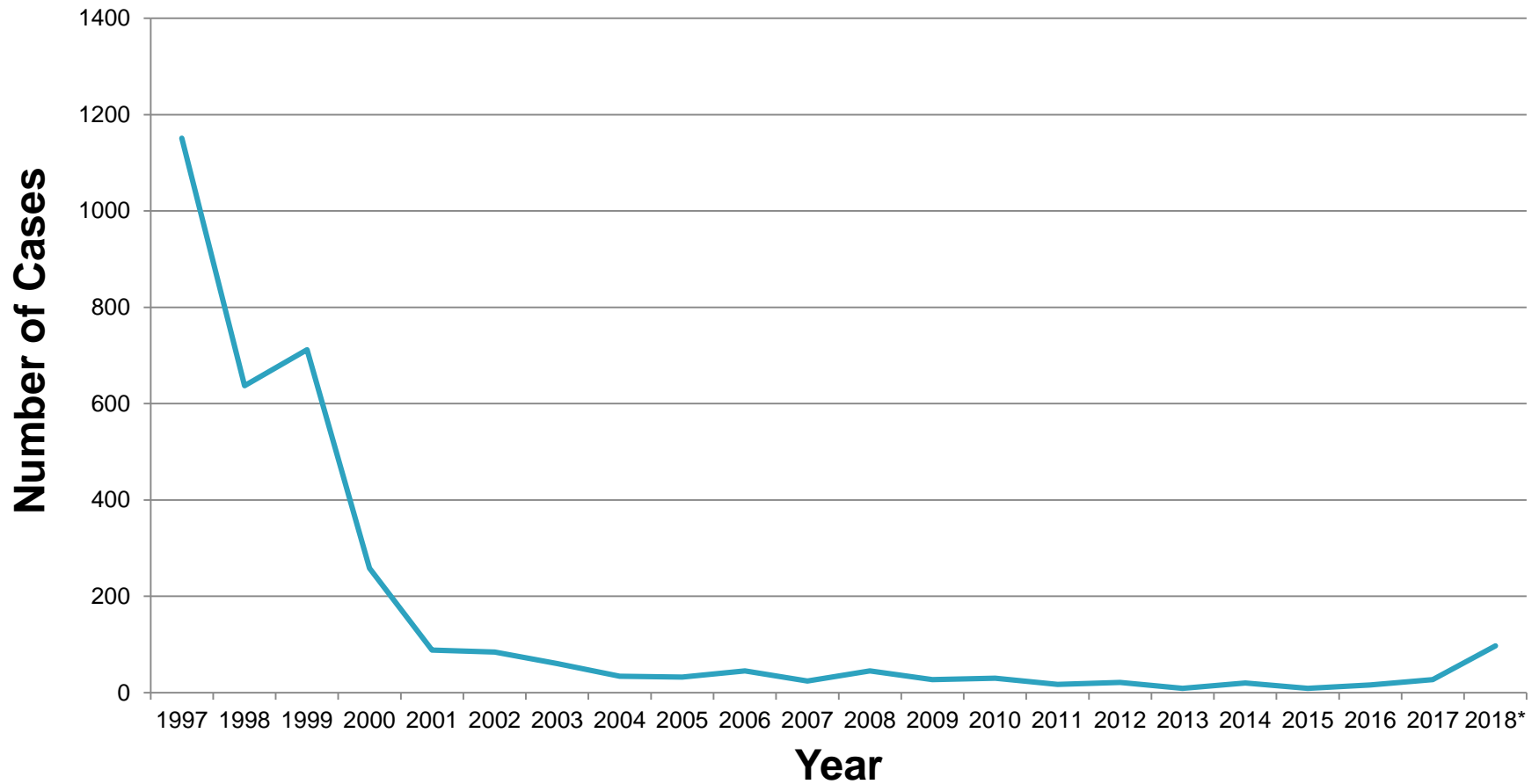
**Map 2.1. 2015 State Acute Hepatitis A Incidence Compared to Healthy People 2020 National Goal\***



Source: CDC, National Notifiable Diseases Surveillance System (NNDSS)

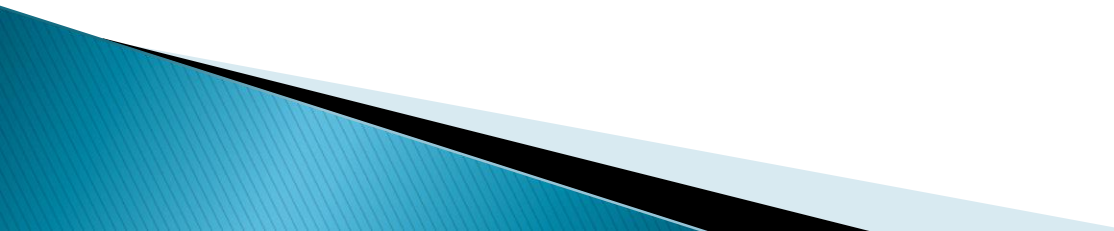
\*National goal: 0.3 cases/100,000 population

# Reported Number of Hepatitis A Cases - Missouri, 1997-2018\*

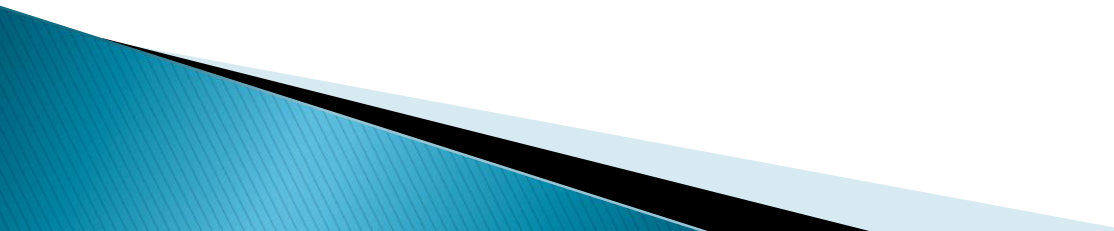


\* Cases reported as of May 4, 2018

# Hepatitis A – Transmission

- ▶ Person to person
    - Fecal-oral
    - Food and water
    - Bloodborne and percutaneous
  - ▶ United States
    - International travel
    - Close personal contact with infected person
    - Sex among men who have sex with men
    - Behaviors associated with injection drug use
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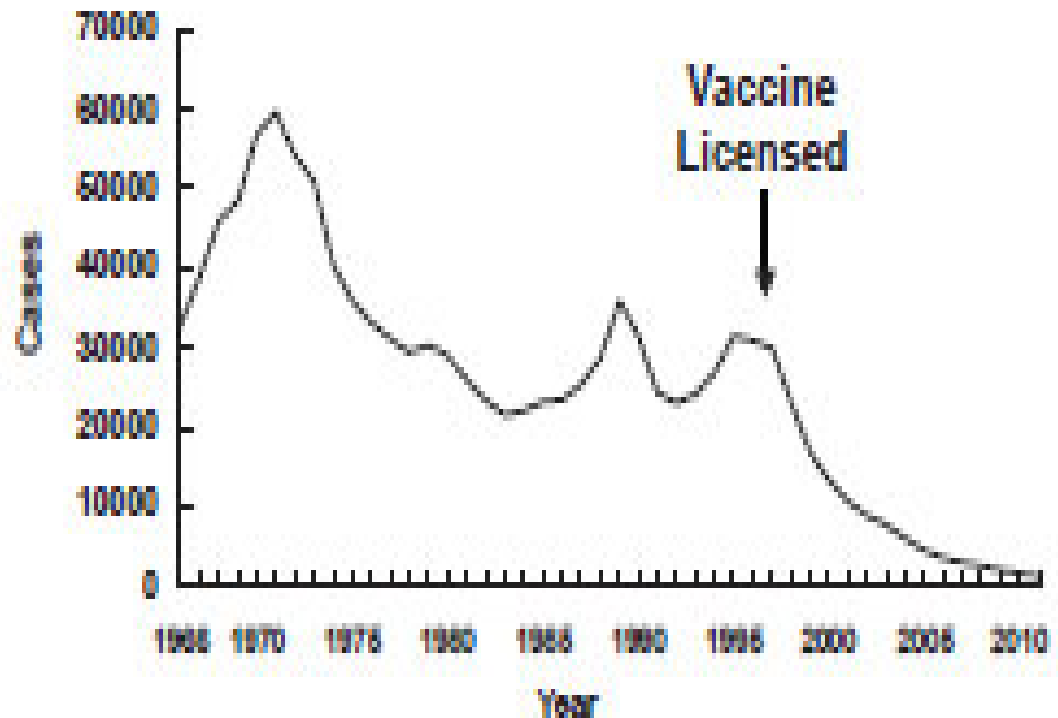
# Hepatitis A – Transmission

- ▶ Communicable: Two weeks before through two weeks after onset of symptoms
  - ▶ Incubation Period: 15 – 50 days following exposure
  - ▶ Children less than five will not have symptoms, but still infectious
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# Hepatitis A - Vaccine

- ▶ Hepatitis A vaccination available in 1996
- ▶ Over 95% effective with single dose
- ▶ 100% effective with second dose

Hepatitis A Cases in U.S. 1966 – 2010\*



# Hepatitis A - Vaccine

## Recommended for:

- ▶ All children at age one year
- ▶ Persons who are at increased risk for infection
- ▶ Persons who are at increased risk for complications
- ▶ Any person wishing to obtain immunity (protection)

## Persons at increased risk:

- ▶ Travelers to countries with high rates of hepatitis A
- ▶ Family members and caregivers of recent adoptees from countries where hepatitis A is common
- ▶ Men who have sex with men
- ▶ People who use injection and non-injection drugs
- ▶ People with chronic liver diseases
- ▶ People who are treated with clotting-factor concentrates
- ▶ People who work with hepatitis A infected animals or in a hepatitis A research laboratory

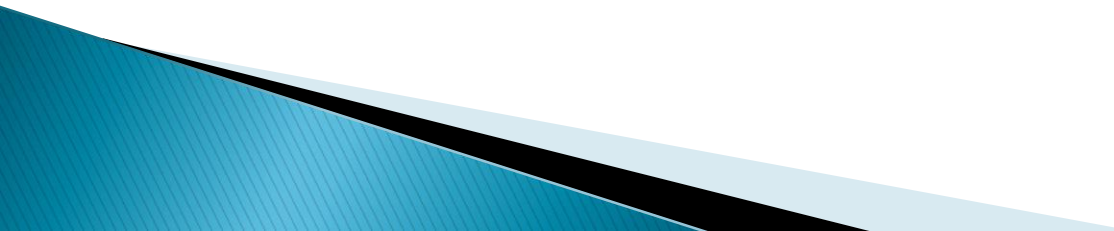
# Hepatitis A – Post Exposure Prophylaxis\*

- ▶ Must be given within two weeks after exposure
- ▶ Single-antigen Hepatitis A Vaccine\*
  - Healthy persons aged 12 months – 40 years
- ▶ Immune globulin (IG)
  - Children aged <12 months,
  - Immunocompromised
  - Chronic liver disease
  - Allergic to the vaccine or a vaccine component

\* Changes have been approved by the Advisory Committee for Immunization Practices (ACIP).



# Hepatitis A Outbreaks United States

- ▶ Outbreak in several states beginning in 2016
  - ▶ Primarily among persons who are homeless, persons who use injection and non-injection drugs, and their close direct contacts
  - ▶ Several comorbidities
  - ▶ Increase hospitalizations
  - ▶ Increase in deaths
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# Multistate Hepatitis A Outbreaks – United States, as of May 4, 2018

State	Cases	Hospitalized	Deaths	Start Date
Michigan	828	665	26	August 2016
California	704	461	21	November 2016
Kentucky	448	315	4	August 2017
Utah	235	125	2	January 2017
Missouri	104	47	0	September 2017
Indiana	91	44	0	November 2017
West Virginia	54	37	0	March 2018

# Hepatitis A Outbreak Southeast Missouri\*

- ▶ 104 cases reported since September 2017
- ▶ Eight counties in Southeast Missouri
- ▶ Median age 37 years, range (14 – 68 years)
- ▶ 45% hospitalized
- ▶ 22% reported comorbidities
- ▶ 63% report using or tested positive for illicit drugs

\* Data as of May 4, 2018.

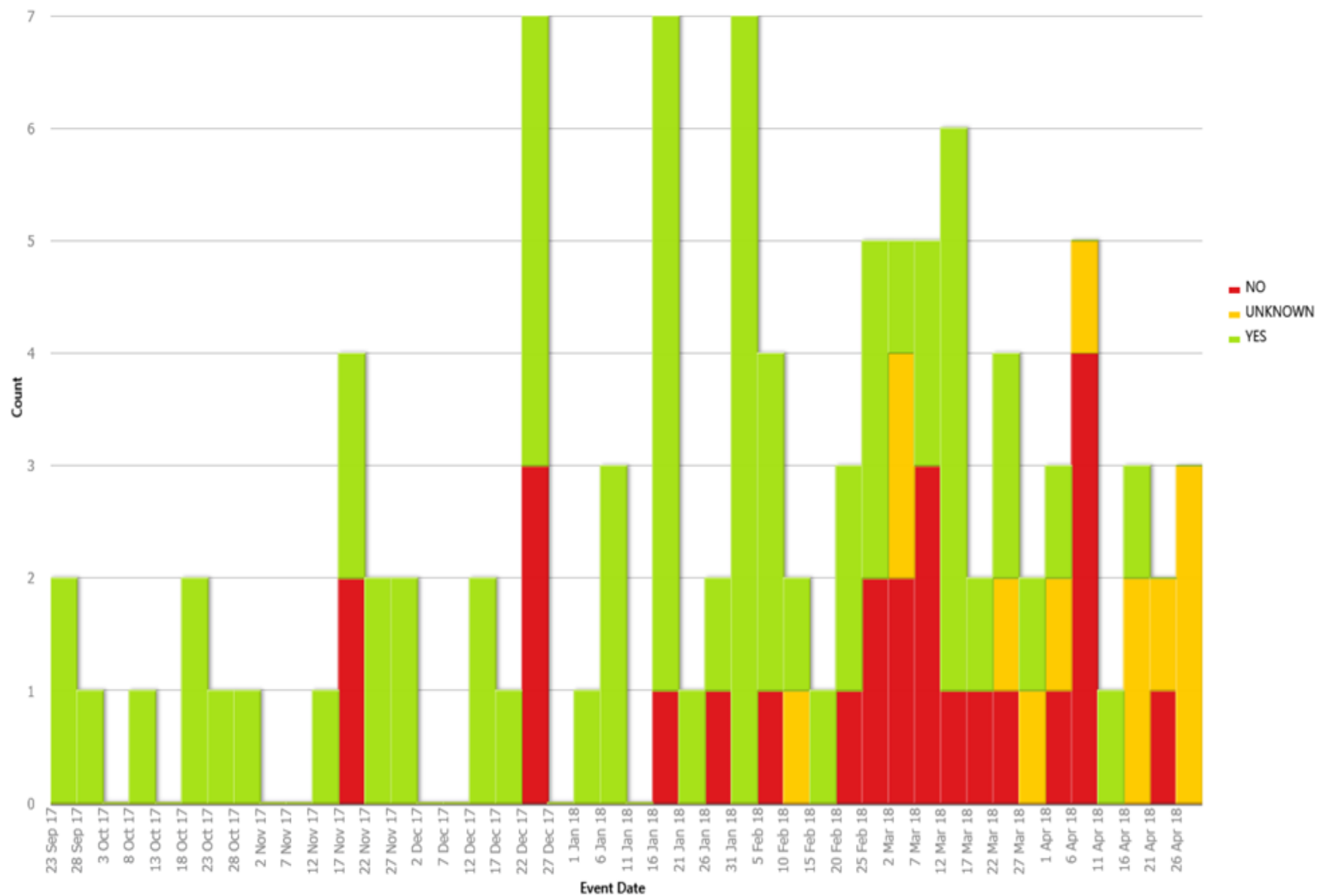


# Hepatitis A Outbreak-Associated Cases by County of Residence in Missouri, 2017-2018\*

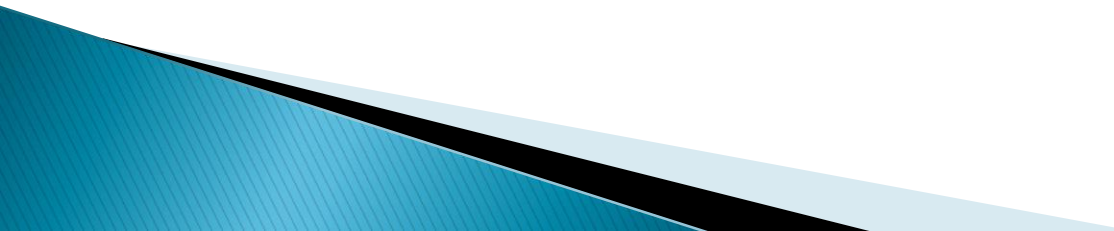
County	Total
BUTLER	79
STODDARD	15
RIPLEY	3
DUNKLIN	2
SCOTT	2
NEW MADRID	1
SHANNON	1
WAYNE	1
<b>Total</b>	<b>104</b>

\* Cases reported as of May 4, 2018.

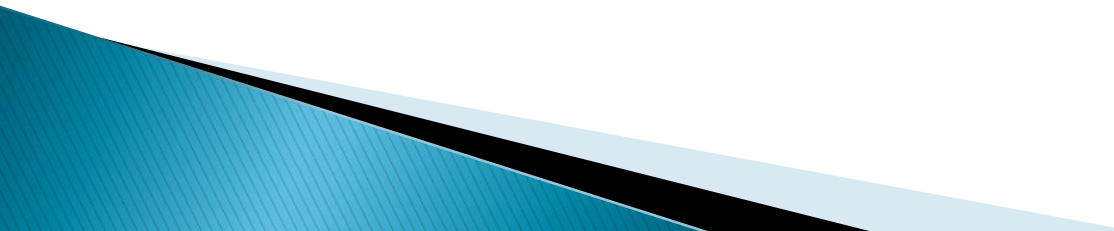
Hepatitis A Cases in Southeast Missouri Stratified by Drug Use (Sept 15, 2017- May 4, 2018; N= 104)



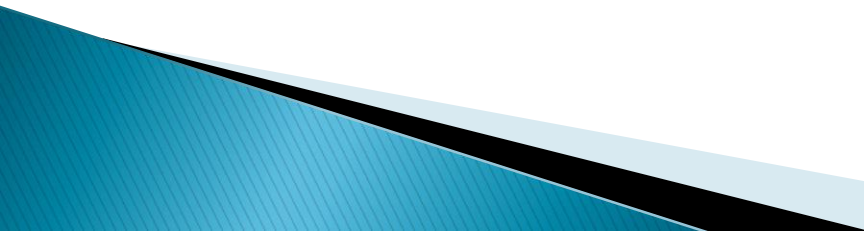
# Missouri Outbreak in Perspective

- ▶ Outbreak cases (last six months) are more than reported statewide in prior six years combined
  - ▶ Most cases reported in single year since 2000
  - ▶ If the outbreak continues at current pace or expands, cases could exceed those observed in the mid-1990's prior to the availability of vaccine
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# Public Health Challenges

- ▶ Confirm the case
    - Symptoms and symptom onset dates
    - Laboratory results (serology – IgM)
  - ▶ Prompt interview of case
    - Identify close contacts
    - Identify high risk settings
    - Recommend prevention (good handwashing, etc.)
  - ▶ Prophylaxis of close contacts
    - Hepatitis A vaccine
    - IG
  - ▶ Public Messaging
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# Hepatitis A Case in a Food Handler

- ▶ Prompt investigation
  - ▶ Collaboration of disease investigators and/or nursing, and environmental public health specialists
  - ▶ Vaccinate all co-workers at food establishment
  - ▶ Determine the risk to the public
  - ▶ Public announcement and vaccine clinic
    - Symptoms of case
    - Foods handled and prevention measures
    - Timing of the report
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# Expect Murphy's Law to be in Full Effect

“An observation: anything that can go wrong will go wrong” - Merriam-Webster Dictionary



# Thank You!

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